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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/049,910	02/20/2002	Jean-Claude Jacquet	219604US2PCT	2402

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EXAMINER

KOPPIKAR, VIVEK D

ART UNIT

PAPER NUMBER

1775

DATE MAILED: 05/21/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/049,910

Applicant(s)

JACQUET, JEAN-CLAUDE

Examiner

Vivek D Koppikar

Art Unit

1775

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 20 February 2002.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 18-34 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 18-26 and 29-34 is/are rejected.
- 7) ☒ Claim(s) 27 and 28 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Claim Objections*

1. Claims 18-34 are objected to because of the following informalities: The term “good magnetic permeability” used throughout the claims is an indefinite term. Appropriate correction is required. The examiner suggests either deleting the term “good” or amending the claims to recite a definite value of magnetic permeability that is considered “good” by one of ordinary skill in the art.

### *Claim Rejections - 35 USC § 112*

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 23-26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The phrase “a thickness of the first sublayers” in lines 1-2 of Claim 23 is confusing and indefinite. Does this mean the sum of the thicknesses of all the sublayers or the thickness of an individual sublayer? Appropriate correction and/or clarification is required.

Claims 25 and 25 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The term “few tens” in both of these claims is undefined and indefinite. What is the thickness of the sublayer.

4. Claim 34 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the applicant

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regards as the invention. "A thicknesses of the backplate" in lines 7-8 is confusing and indefinite. Appropriate correction and/or clarification is required.

*Claim Rejections - 35 USC § 103*

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 18-21 and 33-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 91/10234 to Maurice in view of Japanese Patent Number to Kumio (hereafter referred to as JP'309).

With regard to Claims 18 and 20, Maurice teaches a magnetooptic read head with a magnetooptic effect layer (11), a layer of nonmagnetic material (10) and a magnetic layer (9) (Translated Abstract). The nonmagnetic material (10) includes silicon (Page 6, Ln. 13-22).

The magnetic layer (9) in Maurice is not multilayered.

JP'309 teaches a magnetic head core which is a multilayered structure of magnetic layers (2) disposed between nonmagnetic layers (3). The magnetic layers (2) have a greater wear resistance than the nonmagnetic layers (3). This magnetic structure exhibits a high degree of reproducing efficiency and a long life (Translated Abstract).

At the time of the invention one of ordinary skill in the art would have been motivated to replace the single magnetic layer (9) in Maurice with the multilayered structure in JP'309 with the expectation of obtaining a magnetic head exhibiting excellent reproducing efficiency in a

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high frequency range and a head with a long life because of the arrangement of the non-magnetic layers in between the magnetic layers.

The examiner takes the position that, in the magnetic head of Maurice in view of JP'309, the wear coefficient of nonmagnetic layers in the magnetic structure (3) and the nonmagnetic layer (10) are substantially equal since they are both made of nonmagnetic materials. The nonmagnetic material in Maurice includes silicon while JP'309 does not limit the nonmagnetic material.

With regard to Claims 19 and 21, the magnetic portions (2) of the structure in JP'309 are made of Fe-Al-Si alloys (Translated Abstract) while the layer (11) with the magneto optic effect is also made of an Fe-Al-Si alloy (Page 8, Ln. 1-5).

With regard to Claims 33-34, Maurice teaches using the read head with a substrate (30) and a backplate (33). According to figure 6a the substrate (30) and the backplate (33) have an equal thickness (Page 8, Ln. 9-30 and Figure 6a).

7. Claims 22 and 29-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maurice in view of JP'309 as applied to Claim 18 above and in further view of US Patent Number 4,660,175 to Strand.

Maurice and JP'309 do not teach using silicon nitride as the non-magnetic material or a protective layer nor do they teach using it as an optical coupler.

Strand teaches using silicon nitride in a data storage medium as a non-magnetic layer and optical coupler because of its versatility as a material possessing chemical and moisture resistance (Col. 2, Ln. 59-64). At the time of the invention one of ordinary skill in the art would

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have used silicon nitride in the magnetic head of Maurice in view of JP'309 with the expectation of obtaining a magnetic head with greater chemical and moisture resistance.

*Allowable Subject Matter*

8. Claims 27-28 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

With regard to Claim 27-28 the prior art of record (Maurice and JP'309) does not teach or suggest a reflecting layer which is present between a magnetic and non-magnetic layer.

*Conclusion*

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Vivek Koppikar** whose telephone number is **(703) 305-6618**. The examiner can normally be reached on Monday-Friday from 8 AM to 5 PM, Eastern Time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Deborah Jones, can be reached at (703) 308-3822. The fax phone numbers for the organization where this application or proceeding are assigned are (703) 305-7718 for regular communications and (703) 305-3599 for After Final communications. The examiner's desktop fax number is (703) 746-3983.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Vivek Koppikar

5/19/03

  
DEBORAH JONES  
SUPERVISORY PATENT EXAMINER